National Pollutant Discharge Elimination System DRAFT
GENERAL PERMIT FACT SHEET for
Ground Water Petroleum Remediation Systems
NPDES Permit No. ING080000
September 23, 2015
Indiana Department of Environmental Management
Office of Water Quality
100 North Senate Avenue
Indianapolis, Indiana 46204
www.idem.IN.gov

Existing Permit Information:	Permit Number: ING080000 (Master General Permit). Existing facilities permitted under 327 IAC 15-10 will retain their existing general permit tracking numbers, and new permitted facilities will have tracking numbers using same numbering protocol. Expiration Date: Under 327 IAC 15-10, each permitted facility has a unique expiration date based upon five (5) years from when coverage commences. Under this general permit all permitted facilities will have the same expiration date.
Source Location:	State-wide
Receiving Stream:	All waters of the state of Indiana, except for Outstanding State Resource Waters and Outstanding National Resource Waters
Proposed Action:	New administrative NPDES general permit to replace existing NPDES general permit-by-rule (327 IAC 15-10)
Source Category:	NPDES Minor – Industrial
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The Federal Water Pollution Control Act (also referred to as The Clean Water Act (CWA) (33 U.S.C. 1251 et seq.), which was enacted in 1972, provides that the discharge of pollutants to the waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The primary condition determining eligibility is ensuring that the discharge consists of only wastewater from Ground Water Petroleum Remediation systems. Dischargers who meet the eligibility requirements may apply for coverage by this NPDES general permit, instead of seeking coverage under an individual NPDES permit. Development of a Fact Sheet for NPDES permits is required by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Indiana Department of Environmental Management (IDEM) as outlined in 40 CFR 122.28 and 327 IAC 5-3-8.

A. Description of Category:

The purpose of this general permit is to regulate the point source discharge of ground water petroleum remediation wastewater so that the public health, existing uses, and aquatic biota are protected.

"Ground Water Petroleum Remediation Wastewater" is defined as: the discharge from any conveyance, used for collecting and conveying wastewater which is directly related to ground water petroleum remediation systems or activities. This includes groundwater which has been contaminated by gasoline, diesel fuel, and other petroleum products that are typically associated with gas stations and truck stops.

NPDES general permits are developed and issued to cover multiple facilities engaged in the same process category instead of an individual facility within the State of Indiana. IDEM first developed a general NPDES permit-by-rule (327 IAC 15-10) for discharges of ground water petroleum wastewater in 1994. As a result of statutory changes to Indiana law in 2011, IDEM is now changing its method of administering NPDES general permits by changing from a permit-by-rule format to an administrative format which utilizes a "master general permit" (EPA terminology) which will be renewed and reevaluated on a five-year interval. Persons who seek coverage under the master general permit will continue to be assigned permit tracking numbers beginning with "ING08" but coverage under the general permit will be limited to the permit term established in the master general permit once it is issued.

As such, all of the permitted discharges generally require the same effluent limitations and monitoring requirements. As of August 2015, there are approximately 85 facilities which are currently regulated under 327 IAC 15-10. Since the permit requirements for all of these discharges are similar and because of the number of such dischargers, it is the opinion of IDEM that this category of sources is controlled more appropriately under a NPDES general permit rather than under individual permits. These discharges are similar in several ways:

1) They are comprised solely of ground water petroleum remediation wastewater; and
2) The ground water at the facilities addressed in this general permit has contained petroleum or petroleum-derived liquids.

B. Geographic area covered:

This general permit is intended to potentially cover any discharge of ground water petroleum remediation wastewater within the boundaries of the state of Indiana, except as denoted herein.

C. Receiving waters:

This general permit will authorize discharges to all waters of the State of Indiana, except for Outstanding State Resource Waters and Outstanding National Resource Waters. Dischargers to these receiving waters are required to obtain an individual NPDES permit to regulate their discharges.

D. Eligibility

Discharges covered under this general permit will be from primarily industrial facilities with discharges solely comprised of wastewater from ground water petroleum remediation systems. This general permit contains eligibility criteria including certain specific exclusions from coverage under the general permit which are denoted in Section 1.3 of the permit. In such instances the person will be required to apply for an individual NPDES permit.

The following discharges of wastewater from ground water petroleum remediation systems are not authorized by this permit:

- direct discharges into waters that are designated as an Outstanding National Resource Water (ONRW) defined at IC 13-11-2-149.5 or an Outstanding State Resource Water (OSRW) defined at IC 13-11-2-149.6 and listed at 327 IAC 2-1.3-3(d);
- discharges to a receiving stream when the discharge results in an increase in the ambient concentration of a pollutant which contributes to the impairment of the receiving stream for that pollutant as identified on the current 303(d) list of impaired waters; and
- discharges containing water treatment additives (WTAs) which have not received prior written approval from IDEM for the specific additive, use, and dosage at the particular site for which the Notice of Intent (NOI) is submitted. (If the need arises for a permittee to utilize a new WTA after obtaining general permit coverage, the permittee must still obtain pre-approval from IDEM before utilizing the WTA at the site.)

E. Application for Coverage:

This general permit proposes to provide coverage for any facility with discharges composed entirely of ground water petroleum remediation wastewater which meet the eligibility criteria listed in Section 1.3 of the permit and agree to be regulated under the terms of the general permit.

Each facility seeking coverage under this general permit must submit a Notice of Intent (NOI) application. Federal regulations found in 40 CFR 122.21(a) exclude persons covered by general permits from requirements to submit an application for an individual permit. NOI requirements are intended to establish a mechanism that can be used to establish a clear accounting of the number of permittees covered by the general permit, the identities, locations, mailing addresses, and nature of discharge.

F. Antidegradation Evaluation

327 IAC 2-1.3 outlines the state's Antidegradation Standards and Implementation Procedures. The Tier 1 antidegradation standard found in 327 IAC 2-1.3-3(a) applies to all surface waters of the state regardless of their existing water quality. Based on this standard, for all surface waters of the state, existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. IDEM implements the Tier 1 antidegradation standard by requiring NPDES permits to contain effluent limits and best management practices for regulated pollutants that ensure the narrative and numeric water quality criteria applicable to the designated use are achieved in the water and any designated use of the downstream water is maintained and protected.

The Tier 2 antidegradation standard found in 327 IAC 2-1.3-3(b) applies to surface waters of the state where the existing quality for a parameter is better than the water quality criterion for that parameter established in 327 IAC 2-1-6 and 327 IAC 2-1.5. These surface waters are considered high quality for the parameter and this high quality shall be maintained and protected unless the commissioner finds that allowing a significant lowering of water quality is necessary and accommodates important social or economic development in the area in which the waters are located. IDEM implements the Tier 2 antidegradation standard for regulated pollutants with numeric water quality criteria quality adopted in or developed pursuant to 327 IAC 2-1 and 327 IAC 2-1.5 and utilizes the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6. Effluent limits for benzene, BTEX, and naphthalene are included in this general permit to satisfy the Tier 2 antidegradation requirements.

According to 327 IAC 2-1.3-1(b), the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6 apply to a proposed new or increased loading of a regulated pollutant to surface waters of the state from a deliberate activity subject to the Clean Water Act, including a change in process or operation that will result in a significant lowering of water quality.

The following antidegradation evaluation and determination is based on 327 IAC 2-1.3. The effluent limitations contained in the general permit for discharges of wastewater associated with ground water petroleum remediation systems is based on the best available treatment in accordance with 327 IAC 5-5-2 and Indiana water quality standards.

Wastewater Characterization

The chemical and physical characteristics of the wastewater have been evaluated by IDEM. When gasoline is the only contaminant of concern, IDEM has historically only required effluent limitations in the NPDES general permit for benzene as a representative parameter. However most of the sites which are undergoing the ground water remediation activities are former gas stations and truck stops, so the potential exists for other petroleum-related contaminants, such

as diesel fuel or kerosene, to be present at these sites. If these contaminants are found to be present at the remediation site, additional effluent limitations and monitoring requirements need to be included, such as toluene, ethyl benzene, xylene, total BTEX, naphthalene, lead and methyl tertiary butyl ether (MTBE).

Effluent Limitations Rationale

The draft permit includes effluent limitations for benzene, BTEX, naphthalene, and pH. It also includes monitoring and reporting requirements for toluene, ethyl benzene, xylene, MTBE, and lead. All ground water petroleum remediation systems at a minimum must meet the effluent limitation for benzene, which is considered an indicator parameter as far as the BTEX compounds are concerned, and it is the primary pollutant of concern when it comes to the remediation of gasoline in wastewater. However, some of the leaking underground storage tanks at gas stations have the potential to have diesel fuel or kerosene leakage, so it is important to include effluent limitations which will also cover that type of discharge of remediated ground water. Therefore additional parameters have been included in this permit to address those sources of wastewater, with the provision that such additional monitoring may be waived if the wastewater characterization data included in the NOI supports the waiver.

The effluent limits for BTEX are based on Indiana water quality criteria and the Best Available Treatment Technology in accordance with 327 IAC 5-5-2(b)(2) which authorizes IDEM to develop technology based effluent limits on a case-by-case basis under section 402(a)(1) of the Clean Water Act. This is commonly referred to as the Best Professional Judgment of the Best Available Treatment (BPJ/BAT).

The BPJ/BAT limits for the BTEX compounds is based on the ability of existing, reliable and affordable treatment systems to remove these pollutants from ground water to a level below the Drinking Water Maximum Contaminant Levels (MCLs). The development of the MCLs incorporated all of the factors required to be considered by IDEM in accordance with 327 IAC 5-5-2(B)(2) which references the appropriate factors listed in section 304 of the Clean Water Act.

The following table compares the water quality-based effluent limits (WQBELs) for BTEX, calculated without the benefit of a mixing zone to demonstrate the most protective limit, to the technology based limits using BPJ/BAT:

Daily Maximum Effluent Limitations (µg/l)

	WQBEL	TBEL
Benzene	161.0	5.0
Total BTEX	533.5	100.0
Naphthalene	18.0	10.0

The most stringent of the limits for each pollutant, based on either the water quality criteria or the treatment technology, is selected to ensure that both proper

treatment of the wastewater is occurring and the discharge is not harmful to aquatic life and human health. In this case, the technology based limits (TBELs) are more stringent than the limits based on water quality criteria for BTEX.

Demonstration of a Non-Significant Lowering of Water Quality

It has been demonstrated historically that ground water remediation cleanups of Volatile Organic Compounds (VOCs) and petroleum products can be effectively treated with the use of a combination of the following treatment processes consisting of initial filtration, oil water separators, air stripping, and activated carbon filtration. This is a mature treatment technology which has been used as a demonstration of the most cost-effective treatment methods for these compounds involving ground water remediation projects. The effluent limitations in this permit are based upon the BAT technology for petroleum-contaminated ground water. Additionally IDEM concludes the remediation activities authorized under this general permit are necessary and important for social and economic development in Indiana.

G. When to Apply

State NPDES rules require individual permit applications to be filed at least one hundred eighty (180) days prior to the commencement of the activity. The current NPDES general permit-by-rule (327 IAC 15-10) allows an NOI to be filed at least fifteen (15) days prior to the commencement of the proposed activity. Under the terms and conditions of this general permit, appropriate submission time frames depending upon the situation of the discharger are proposed (See Section 4.0 of the general permit).

H. Permit Conditions:

1) Effluent Limitations & Monitoring Requirements

Under State and Federal law and regulations 40 CFR 122.44 and 327 IAC 5, a discharge permit must establish effluent limitations equivalent to best available technology economically achievable (BAT). For some industry categories, such effluent limitations have already been established by the EPA. This is not the case with discharges of ground water petroleum remediation wastewater; thus, IDEM used Best Professional Judgment (BPJ) to choose effluent limitations that meet technology based levels equivalent to BAT.

a) **Flow** is a standard parameter to be monitored in all NPDES permits. As in the general permit-by-rule, the requirement to report both the monthly average and daily maximum flows for each month has been retained. The permit-by-rule only required once monthly monitoring of flow. This general permit proposes to increase the flow monitoring to daily. Flow measurement may be estimated. This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

b) **pH** is included in the general permit to ensure that the discharge will not violate Indiana water quality standards. The proposed limit of 6.0 to 9.0 standard units (s.u.) is in accordance with the Indiana Water Quality Standards (327 IAC 2-1-6 and 327 IAC 2-1.5-8). The effluent limitations and monitoring requirement for pH is the same as that which exists in the current general permit-by-rule, 327 IAC 15-10.

c) **Benzene:** Benzene is being used as an indicator of the volatile organic compounds present in the gasoline. The benzene limitation of 0.005 mg/l (5.0 µg/l) has been established based upon Best Available Technology (BAT) in accordance with 327 IAC 5-5-2. This parameter is retained from the general permit by-rule because it is believed to be present in the discharges of wastewater associated with ground water petroleum remediation systems.

d) **Total Flow**: An additional reporting requirement is being added to require the permittees to monitor and report the total flow value for the month in units of million gallons (mgal). This requirement has actually been a parameter listed on the Discharge Monitoring Report forms for all NPDES permittees for the past several years, and it is included to assist IDEM in properly assessing the annual permit operating fees set forth under IC 13-18-20.

e) **Total BTEX:** Effluent limitations and monitoring requirements for Total BTEX are added to the general permit in the event that other petroleum-related contaminants besides gasoline are present in the ground water. The Total BTEX limitation of 0.1 mg/l (100 µg/l) is established based upon Best Available Technology (BAT) in accordance with 327 IAC 5-5-2. Monitoring and reporting of each of the remaining BTEX constituents (toluene, ethylbenzene, and xylene) are also required. The monitoring requirements for these parameters may be waived or reduced (via an official IDEM approval letter) if the wastewater characterization data supports the waiver or reduction.

f) **Naphthalene**: Effluent limitations and monitoring requirements for Naphthalene are added to the general permit in the event that diesel fuel is a contaminant that is present in the ground water. The Naphthalene limitation of 0.01 mg/l (10 µg/l) is established based upon Best Available Technology (BAT) in accordance with 327 IAC 5-5-2. The monitoring requirements for this parameter may be waived or reduced (via an official IDEM approval letter) if the wastewater characterization data supports the waiver or reduction.

g) **Lead:** Monitoring requirements for total recoverable lead are added to the general permit in the event that leaded gasoline is the source of the contamination in the ground water. The monitoring requirements for this parameter may be waived or reduced (via an official IDEM approval letter) if the wastewater characterization data supports the waiver or reduction

h) **MTBE:** Monitoring requirements for Methyl Tertiary Butyl Ether (MTBE) are added to the general permit in the event that it is determined to be present in the ground water. The monitoring requirements for this parameter may be waived or reduced (via an official IDEM approval letter) if the wastewater characterization data supports the waiver or reduction.

i) **PAHs:** Monitoring requirements for Polycyclic Aromatic Hydrocarbons (PAHs) are added to the general permit in the event that these are determined to be present in the ground water. The monitoring requirements for this parameter may be waived or reduced (via an official IDEM approval letter) if the wastewater characterization data supports the waiver or reduction. The reported value for PAHs shall be the combined concentrations of anthracene, benzo(a)anthracene, benzo(k)fluoranthene, 3,4-benzofluoranthene (benzo(b)fluoranthene), benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, and pyrene.

2) Narrative Water Quality Based Limits

The narrative water quality standards contained in 327 IAC 2-1-6(a) and 327 IAC 2-1.5-8(b) have been included in this general permit to ensure that the narrative water quality criteria are met.

3) Monitoring and Reporting Requirements

The permittee is required to complete and submit federal Discharge Monitoring Reports (DMRs) and state Monthly Monitoring Reports (MMRs) to IDEM containing the results obtained during the previous monitoring period by the 28th day of the month following the monitoring period.

The permittee may enroll in NetDMR program for the electronic submittal of the federal DMRs and the state MMR forms in lieu of submitting them via U.S. Mail. Once approved by IDEM, the permittee may use this process for submitting reports in lieu of submitting paper copies of the reports to IDEM.

I. Reporting Spills and Noncompliance

All persons covered by this general permit must monitor for, identify, and report adverse incidents. If a person covered by this general permit observes or is otherwise made aware of an adverse incident that may have resulted from a discharge, the person must notify IDEM by telephone at **(888) 233-7745:**

- immediately for incidents which pose a significant danger to human health or the environment,
- as soon as possible but within two (2) hours of discovery for any adverse incidents resulting in death or acute injury or illness to animals or humans

(see 327 IAC 2-6.1), and

- within 24 hours of the person becoming aware of the adverse incident for any other adverse incidents not listed above.

The permittee shall also submit a written report to IDEM within 5 days of the permittee becoming aware of the incident and may be submitted by U.S. Mail, by fax, or by email (such reports must be sent to: wwreports@idem.IN.gov).

Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

J. Fees

In accordance with IC 13-18-20-12, any application for a new permit, renewal of a permit, modification of a permit, or variance from a permit requirement must be accompanied by an application fee, which is currently $50.00. These fees are also applicable to NOIs for general permits. Once approved for coverage under a general permit, the permittee is also subject to annual operating fees. These annual fees are set by statute (IC 13-18-20).

K. Reopening Clause

This general permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing to include any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, when the effluent limitation or standard so issued or approved:

a) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
b) controls any pollutant not limited in the permit.

L. Permit Term

This general permit is proposed to be in effect for a five (5) year term.

M. Forms, References, and Guidance Documents

The IDEM website will contain information about each of the NPDES general permits, including the issued permit(s), Notice of Intent forms, Notice of Termination Forms, and helpful reference documents to assist the regulated community and the general public.

This web page is still in development as of the date of this fact sheet.